

Patent claims

1. A passive microphone (1) for wirelessly transmitting sound information to a receiving unit (6), comprising
- an antenna (5) for receiving electromagnetic excitation energy from the receiving unit (6) and for wirelessly transmitting electrical signals to the receiving unit (6) and
 - a piezoelectric device (4),
 - which is connected to the antenna in such a manner that the electromagnetic excitation energy received from the antenna (5) is transmitted to the piezoelectric device (4) and stored by means of the piezoelectric device (4),
 - the piezoelectric unit (4) being designed in such a manner that detected acoustic signals are converted into electrical signals bearing sound information.
2. The passive microphone (1) for wirelessly transmitting sound information to a receiving unit (6) as claimed in claim 1, characterized in that the piezoelectric device (4) temporarily stores the excitation energy from the receiving unit (6) in the form of mechanical vibrations.
3. The passive microphone (1) for wirelessly transmitting sound information to a receiving unit (6) as claimed in claim 1 or 2, characterized in that the piezoelectric device (4) is used for storing the electromagnetic excitation energy, for detecting

4. The passive microphone (1) for wirelessly transmitting sound information to a receiving unit (6) as claimed in one of claims 1 to 3, characterized in that the piezoelectric device (4) essentially consists of a piezoelectric diaphragm (8) having a surface acoustic wave resonant pattern.

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5. The passive microphone (1) for wirelessly transmitting sound information to a receiving unit (6) as claimed in claim 4, characterized in that the diaphragm (8) consists of crystal.

6. The passive microphone (1) for wirelessly transmitting sound information to a receiving unit (6) as claimed in claim 4, characterized in that the diaphragm (8) consists of lithiumniobate.

7. The passive microphone (1) for wirelessly transmitting sound information to a receiving unit (6) as claimed in one of claims 1 to 3, characterized in that the piezoelectric device (4) essentially consists of a surface acoustic wave delay line.

8. The passive microphone (1) for wirelessly transmitting sound information to a receiving unit (6) as claimed in claim 1 or 2, characterized in that the piezoelectric device (4) comprises a device (2) for detecting acoustic signals and a device (3) for storing the electromagnetic excitation energy and for converting detected acoustic signals into electrical signals bearing sound information.

9. The passive microphone (1) for wirelessly transmitting sound information to a receiving unit (6) as claimed in claim 8, characterized in that the device (2) for detecting acoustic signals essentially consists of a diaphragm.

10. The passive microphone (1) for wirelessly transmitting sound information to a receiving unit (6) as claimed in claim 9, characterized in that the diaphragm consists of metal.

11. The passive microphone (1) for wirelessly transmitting sound information to a receiving unit (6) as claimed in claim 8, 9 or 10, characterized in that the device (3) for storing the electromagnetic excitation energy and for converting detected acoustic signals into electrical signals bearing sound information essentially consists of a diaphragm having a surface acoustic wave resonant structure.

12. The passive microphone (1) for wirelessly transmitting sound information to a receiving unit (6) as claimed in claim 8, 9 or 10, characterized in that the device (3) for storing the electromagnetic excitation energy and for converting detected acoustic signals into electrical signals bearing sound information essentially consists of a surface acoustic wave delay line.

13. The passive microphone (1) for wirelessly transmitting sound information to a receiving unit (6) as claimed in one of the preceding claims, characterized in that one or a further device for detecting acoustic signals is provided and is arranged in such a manner that the detected acoustic signals are differentially converted into electrical signals bearing sound information.

18. The passive microphone (1) for wirelessly transmitting sound information to a receiving unit (6) as claimed in one of claims 1 to 14, characterized in that the piezoelectric device (4) receives

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the electromagnetic excitation energy from the
receiving unit in the form of a continuous
frequency-modulated excitation signal.